

PHASE 2 ARCHAEOLOGICAL INVESTIGATIONS AT TWO
PREHISTORIC SITES:
7NC-D-70 and 7NC-D-72
NEW CASTLE COUNTY, DELAWARE

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ABSTRACT

Phase II excavations were undertaken at 7NC-D-70 and 7NC-D-72 within the proposed ROW for the expansion of Route 4. Excavations at 7NC-D-70 revealed that the site had been used as a hunting camp from between 10,000 BC and AD 1000. No in situ remains with good stratigraphic context were present and most of the artifacts recovered from the site had been disturbed by natural erosion and plowing. Environmental analysis of the sites showed the area surrounding 7NC-D-70 to be an ephemeral stream with associated backwater swamps. Excavations at 7NC-D-72 recovered such a small quantity of reliable artifacts that the presence of anything but the most ephemeral prehistoric human use of the site is unlikely. Neither site was considered to be eligible for inclusion on the National Register of Historic Places and no further research is recommended for either site. All notes and artifacts are available at the Island Field Museum, South Bowers, Delaware.

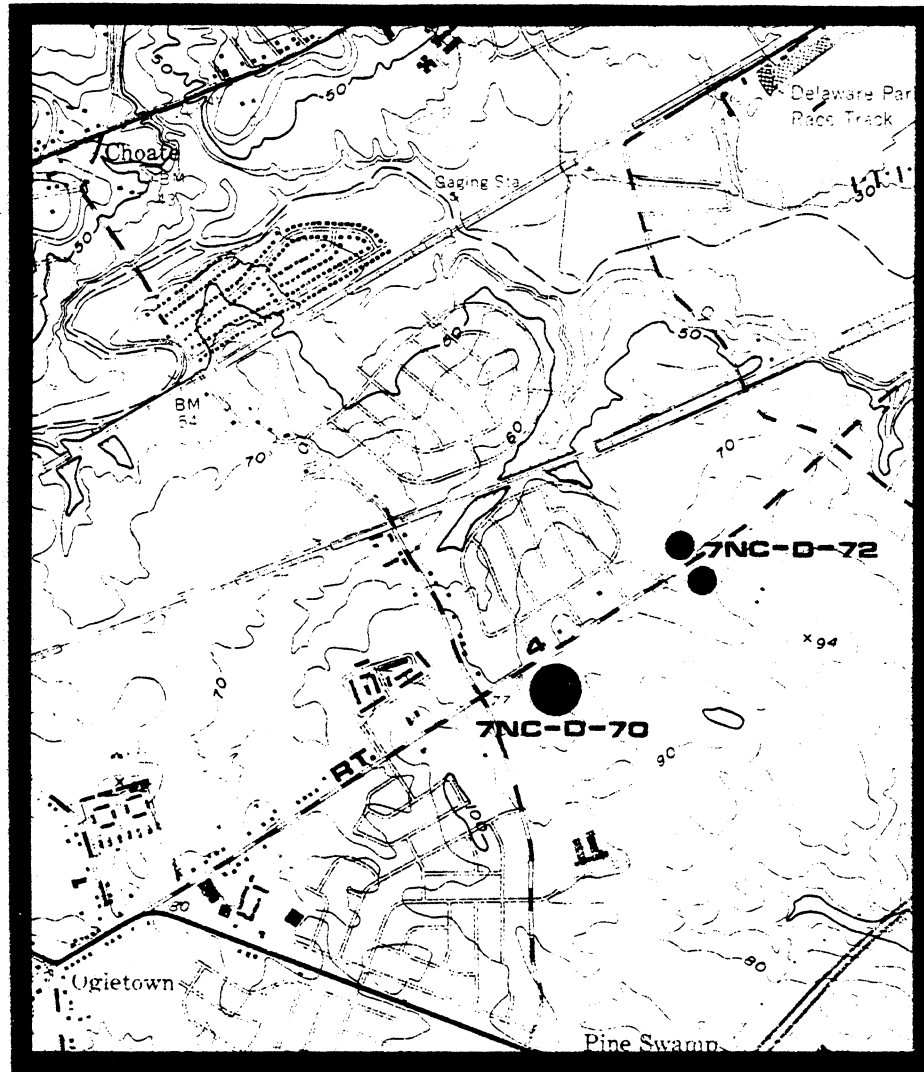
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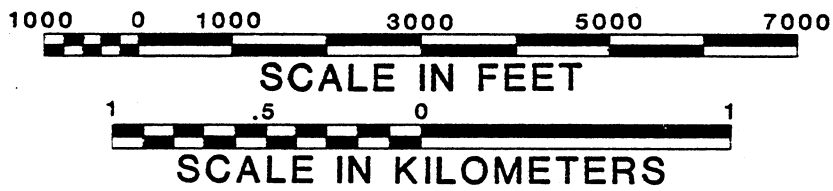
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FIGURE 1



SITE LOCATION MAP



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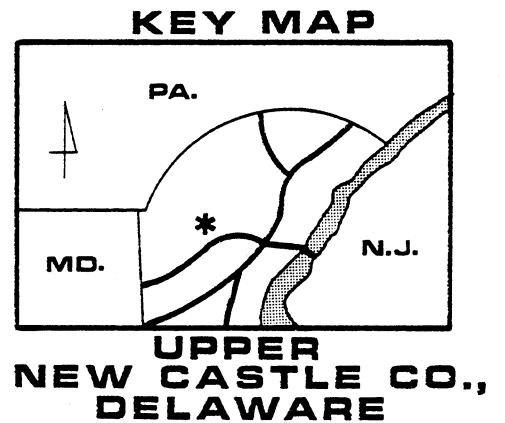
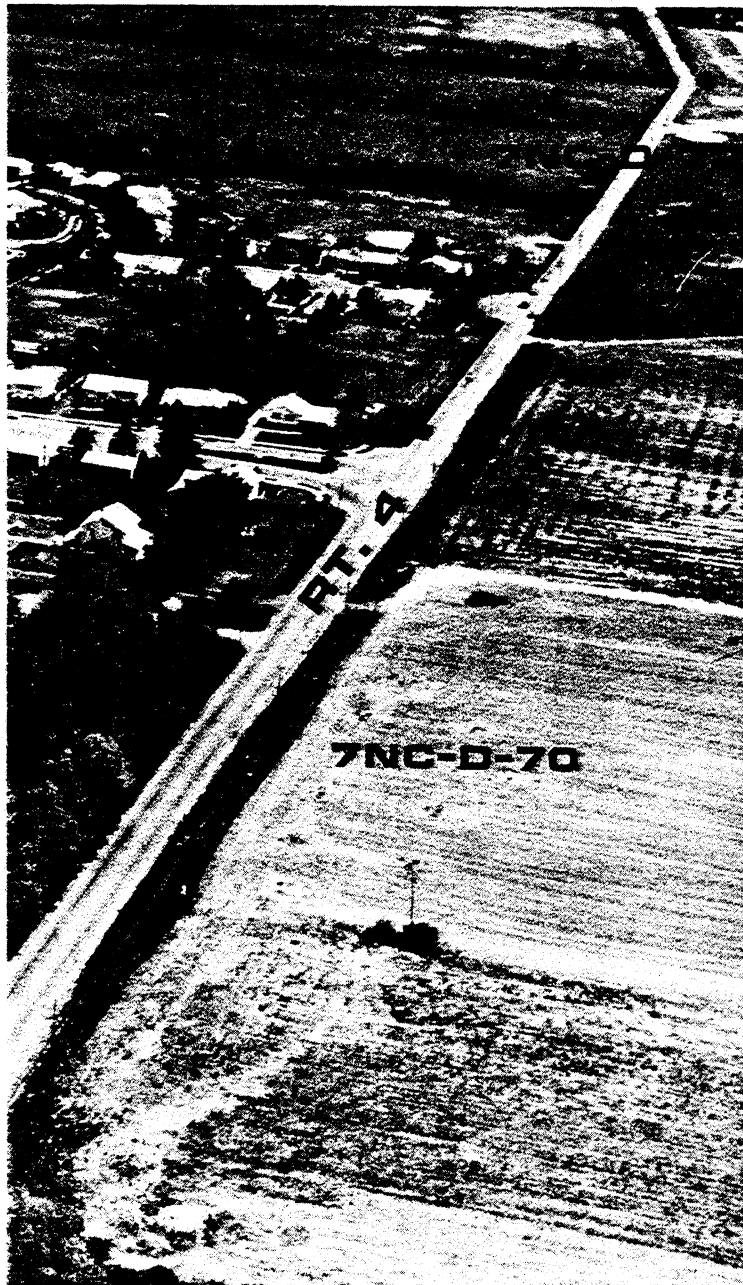


PLATE 1



SITE LOCATIONS

7NC-D-70

7NC-D-72

INTRODUCTION

The purpose of this report is to describe Phase II test excavations at two prehistoric archaeological sites (7NC-D-70, 7NC-D-72) located in the proposed Route 4 Highway Corridor (Figure 1 and Plate 1). The sites were investigated by the University of Delaware Department of Anthropology under the direction of Dr. Jay F. Custer as principal investigator and David C. Bachman as crew chief. Archaeological research was requested by the Delaware Department of Transportation in compliance with federal cultural resource management legislation. The request-for-proposal and the letter-of-agreement are included as Appendix I. The report is organized into two sections. The first section includes background material, briefly reviews the regional prehistory of the area, describes previous research at the sites, and discusses the possible roles of the sites in relation to the regional prehistory. The second section of the report describes the research carried out during the present project and includes information on methods and research design utilized, artifacts recovered, and their stratigraphic context. Conclusions concerning the eligibility of the sites for nomination to the National Register of Historic Places and recommendations for further work are also included.

Appreciation for their support, administration and services is extended to the involved individuals from the Division of Highways, Federal Highway Administration, Bureau of Archaeology and Historic Preservation and the University of Delaware.

BACKGROUND INFORMATION

In order to understand the methods utilized in the test excavations at 7NC-D-70 and 7NC-D-72, it is necessary to look at the general prehistory of northern Delaware. Similarly, previous research at the sites will be considered.

Regional Prehistory*

The prehistoric archaeological record of northern Delaware can be divided into four large blocks of time: The Paleo-Indian Period (ca 12,000 B.C. - 6500 B.C.), The Archaic Period (6500 B.C. - 3000 B.C.), the Woodland I Period (3000 B.C. - A.D. 1000), and the Woodland II Period (A.D. 1000 - A.D. 1650). A fifth time period, the Contact Period may also be considered and spans from A.D. 1650 to A.D. 1750, the approximate date of the final Indian habitation of northern Delaware in anything resembling their pre-European Contact form. Each of these periods is described below.

Paleo-Indian Period (12,000 B.C. - 6500 B.C) - The Paleo-Indian Period encompasses the time period of the final retreat of Pleistocene glacial conditions from Eastern North America and the establishment of more modern Holocene environments. The distinctive feature of the Paleo-Indian Period is an adaptation to the cold, and alternately wet and dry, conditions at the end of the Pleistocene and the beginning of the Holocene. This adaptation was primarily based on hunting and gathering with hunting providing a large portion of the diet. Hunted animals may have included now extinct megafauna and

*This summary of the regional prehistory is abstracted from Custer (1980,1981,n.d.)

moose. A mosaic of deciduous, boreal, and grassland environments would have provided a large number of productive habitats for these game animals in northern Delaware and watering areas would have been particularly good hunting settings.

Tool kits of the people who lived at this time were oriented toward the procurement and processing of hunted animal resources. A preference for high quality lithic materials is noted in the stone tool kits and careful resharpening and maintenance of tools is common. A mobile lifestyle moving among the game attractive environments is hypothesized with the social organizations being based upon single and multiple familybands. Throughout the 5500 year time span of the period, the basic adaption remains relatively constant with some modifications being seen as Holocene environments appear at the end of the Paleo-Indian Period.

Numerous Paleo-Indian sites are noted for northern Delaware including a hunting and processing site near Hockessin, possible quarry sites near Iron Hill, and isolated point finds.

Archaic Period (6500 B.C. - 3000 B.C.) - The Archaic Period is characterized by a series of adaptations to the newly emerged full Holocene environments. These environments differed from earlier ones and were dominated by mesic forests of oak and hemlock. A reduction in open grasslands in the face of warm and wet conditions caused the extinction of many of the grazing animals hunted during Paleo-Indian times; however, browsing species such as deer would have flourished. Sea level rise is also associated with the beginning of the Holocene in northern Delaware. The major effect of the sea level rise would have been to raise the local water table, which helped to create a

number of large swamps such as Churchmans Marsh. Adaptations changed from the hunting focus of the Paleo-Indians to a more generalized foraging pattern in which plant food resources would have played a more important role. Large swamp settings such as Churchmans Marsh apparently supported large base camps as indicated by the remains at the Clyde Farm Site. A number of small procurement sites in favorable hunting and gathering locales are also known from northern Delaware.

Tool kits were more generalized than earlier Paleo-Indian tool kits and showed a wider array of plant processing tools such as grinding stones, mortars, and pestles. A mobile lifestyle was probably common with a wide range of resources and settings utilized on a seasonal basis. A shifting band level organization which saw the waxing and waning of group size in relation to resource availability is evident. Known sites include large base camps (Clyde Farm Site) and smaller processing sites located at a variety of locations and environmental settings.

Woodland I Period (3000 BC-AD 1000) - The Woodland I Period can be correlated with a dramatic change in local climates and environments that seem to be a part of events occurring throughout the Middle Atlantic region. A pronounced warm and dry period sets in and lasts from ca. 3000 BC to 1000 BC. Mesic forests are replaced by xeric forests of oak and hickory and grasslands again become common. Some interior streams dry up; however, the overall effect of the environmental change is an alteration of the environment, not a degradation. Continued sea level rise also makes many areas of the Delaware River and bay shore the sites of large brackish water marshes which are especially high in productivity. The major changes in environment

and resource distributions caused a radical shift in adaptations for prehistoric groups. Important areas for settlements includes the major river floodplains and estuarine swamp areas. Large base camps with fairly large numbers of people are evident in many areas of northern New Castle County such as the Clyde Farm Site, the Crane Hook Site, and the Naamans Creek Site. These sites seem to support many more people than previous base camp sites and may have been occupied on a year-round basis. The overall tendency is toward a more sedentary lifestyle.

The tool kits show some minor variations as well as some major additions from previous Archaic tool kits. Plant processing tools become increasingly common and seem to indicate an intensive harvesting of wild plant foods that may have approached the efficiency of agriculture by the end of the Woodland I Period. Chipped stone tools changed little from the preceding Archaic Period; however, more broad-blade knife-like processing tools become prevalent. Also, the presence of a number of non-local lithic raw materials indicate that trade and exchange systems with other groups were beginning to develop. The addition of stone, and then ceramic, containers is also seen. These items allowed the more efficient cooking of certain types of food and may also have functioned for storage of certain surplus plant foods. Storage pits and house features are also known for northern Delaware during this period from the Delaware Park Site. The social organizations seem to undergo radical changes during this period. With the onset of relatively sedentary lifestyles and intensified food production, which might have produced occasional surpluses, incipient ranked societies may have begun to develop as indicated by the presence of extensive trade and exchange

and some caching of special artifact forms. In any event, by the end of the Woodland I Period a relatively sedentary lifestyle is evident in northern Delaware.

Woodland II Period (AD 1000 - AD 1650) - In many areas of the Middle Atlantic the Woodland II Period is marked by the appearance of agricultural food production systems; however, in northern Delaware there are no indications of such a shift. The settlements of the Woodland I Period, especially the large base camps, were also occupied during the Woodland II Period and very few changes in basic lifestyles and artifact assemblages are evident. Intensive plant utilization and hunting remain the major subsistence activities up to European Contact. Similarly, no major changes are seen in social organization for the Woodland II Period of northern Delaware.

Contact Period (AD 1650 - AD 1750) - The Contact Period is an enigmatic period of the archaeological record of northern Delaware which begins with the arrival of the first substantial numbers of Europeans in Delaware. The time period is enigmatic because no Native American archaeological sites that clearly date to this period have yet been discovered in Delaware. A number of sites from the Contact period are known in surrounding areas such as southeastern Pennsylvania. It seems clear that Native American groups of Delaware did not participate in much interaction with Europeans and were under the virtual domination of the Susquehannock Indians of southern Lancaster County, Pennsylvania. The Contact Period ends with the virtual extinction of Native American lifeways in the Middle Atlantic area except for a few remnant groups.

Previous Research and Regional Settings of 7NC-D-70 and 7NC-D-72

This review of previous research at the site will be confined to reporting on Thomas' (1980) initial examination of 7NC-D-70 and 7NC-D-72 because Thomas did not include any analysis of extant collections from either site as a part of the original survey of the Route 4 Corridor (Thomas 1980). Later in this report private collections studied as part of the Phase II survey will be noted.

7NC-D-70 (Figure 1 and 2)

Phase I research at 7NC-D-70 was confined to surface collection (Thomas 1980: II-11). A variety of artifacts were recovered from the surface collection, however, no mapping of possible concentrations, or individual artifacts, was undertaken. Most of the artifacts were found on the slope of a small rise that leads down into a poorly drained head of an intermittent stream. Artifacts recovered included points, bifaces, a possible celt, and flakes. All of the artifacts were re-examined as part of the Phase II investigations and include the following artifacts:

- 1 side notched point of quartz. Transverse fracture of the blade element the tool was used as a knife for cutting and was fractured in use.
- 1 quartz point tip
- 1 quartz biface rejected due to problems in secondary thinning
- 12 quartz chunks (1 with cortex). These pieces do not show any diagnostic flake morphology; however, they may have been broken in early stages of tool production.
- 1 chert flake
- 2 chert chunks with cortex
- 1 possible celt
- 1 quartzite flake

The limited number of artifacts makes it difficult to ascribe a function to 7NC-D-70; however, the low number of artifacts and varied tool types suggests some kind of specialized, short-term processing site. The side-notched project point is not diagnostic of any special time period and could date from Archaic through Woodland I times (ca. 6,500 B.C. - A.D. 1,000).

The setting of 7NC-D-70 is consistent with the identification of the site as a possible processing station. The only available surface water in the immediate area of the site is the swampy intermittent stream. Although the stream may have been larger at times in the past, it still is a very low order and would provide insufficient water to support a large group settlement. However, the existence of the swampy area at the head of the stream indicates a relatively rich area for hunted and gathered resources. The swampy area with some surface water and mineral licks in the surrounding soils would have attracted game animals and numerous plants associated with a localized hydrophytic sere would have been available for gathering. Also, some cobbles are present in the area and could be used for the manufacture of stone tools. As such, the most likely role of 7NC-D-70 in the regional cultural systems would be as periodically revisited specialized processing station, or transient camp, during Archaic through Woodland II times.

7NC-D-72 (Figure 1 and 5)

Phase I research at 7NC-D-72 included both subsurface testing and surface collection. As was the case with 7NC-D-70, no mapping of artifacts from the surface collections was carried out. Most of the artifacts were found scattered over an area of swampy ground according to Thomas' report (Thomas 1980:III-12). Analysis of the artifacts from Phase I testing of

7NC-D-72 revealed that few of the items recovered in the Phase I field research were clearly artifacts altered by humans. Of the 137 "artifacts" collected in the Phase I research, only 14 were clearly modified by humans for the manufacture of stone tools. The remaining 123 items were cracked cobbles and fragments that did not show the types of features of flake and fracture morphology that are evidence of tool production. While it can be argued that the reduction of cobbles produces many rejects and broken cobbles without clear flake morphology, analysis of numerous cobble reduction stations in northern Delaware (Custer et al 1981) and elsewhere in the Middle Atlantic shows that large quantities of debitage with well-developed flake morphology and broken bifaces in all stages of reduction should be present. Consequently, the bulk of the "artifacts" from the Phase I excavations at, 7NC-D-72 are not really artifacts at all. The few "true" artifacts from the site included one cobble biface in early stages of reduction and a variety of flakes. Based on the artifacts and the setting of the site in a relatively swampy and poorly drained area, it is likely that 7NC-D-72 was the location of very transient and infrequent use as a locale for manufacturing tools from the locally available cobbles. However, it should be stressed that the site is very ephemeral and is in no way comparable to other known cobble reduction sites with associated base camps such as the Green Valley Site Complex (Custer et al 1981).

CURRENT RESEARCH 7NC-D-70

Introduction & Research Methods

The major research task of the current investigation of 7NC-D-70 was the determination of eligibility of the site for inclusion on the National Register of Historic Places. Determination of eligibility included definition of the site limits and determination of the contextual integrity of the site. The limits of the site as defined by Thomas (1980) were not considered to be indicative of the potential site limits. Consequently, the potential limits were extended to the east and to the south within the ROW (Figure 2 and Plate 2). The site was thus enlarged to measure approximately 35 meters north-south and 130 meters east-west. It was bounded on the west by a small ephemeral stream and included a slope which rose gradually over a distance of 80 meters to a berm. The remainder of the site was a relatively flat area to the east. With the exception of the western 30 meters, which is wooded, all of the site is utilized for agricultural purposes.

The site was lying fallow when excavations began in the first week of April. The site had been regularly plowed for several years and was plowed and planted with corn in the spring, subsequent to the excavations. The surface was well-weathered and ground visibility ranged from 30%-80%. Therefore, as the initial step to determining site eligibility a controlled surface collection was conducted. The purposes of the survey were to aid in the determination of the site limits and to determine the artifact types present, their distribution, and their density. This information was then used to determine the placement of the 1 x 1 meter test units and the post holes of the sub-surface testing. The controlled surface survey yielded 13 artifacts

FIGURE 2

7NC-D-70

SITE MAP SHOWING LOCATION OF 1X1 METER TEST UNITS, POST HOLES, POST HOLES, AND ARTIFACTS FOUND DURING CONTROLLED SURFACE SURVEY

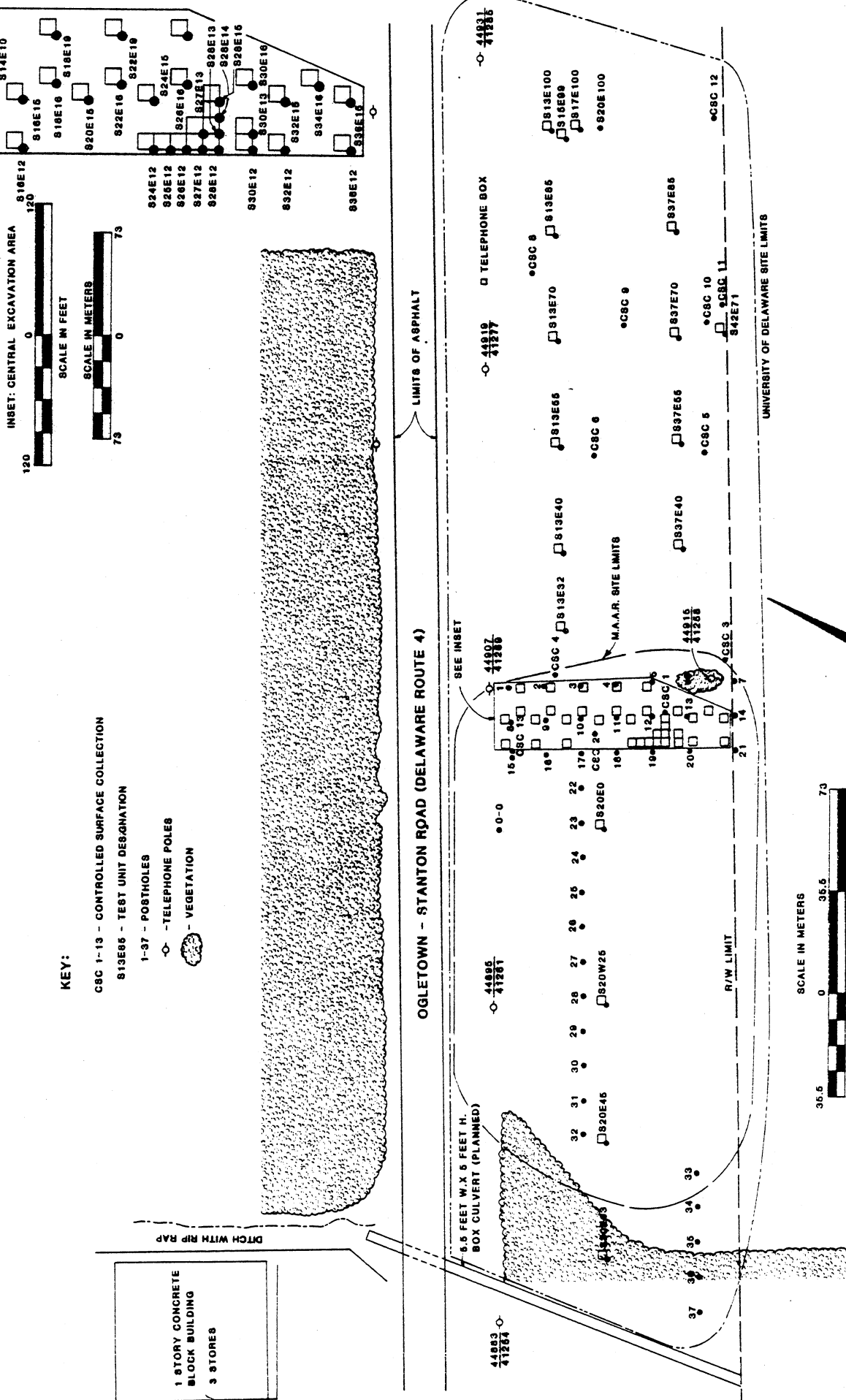
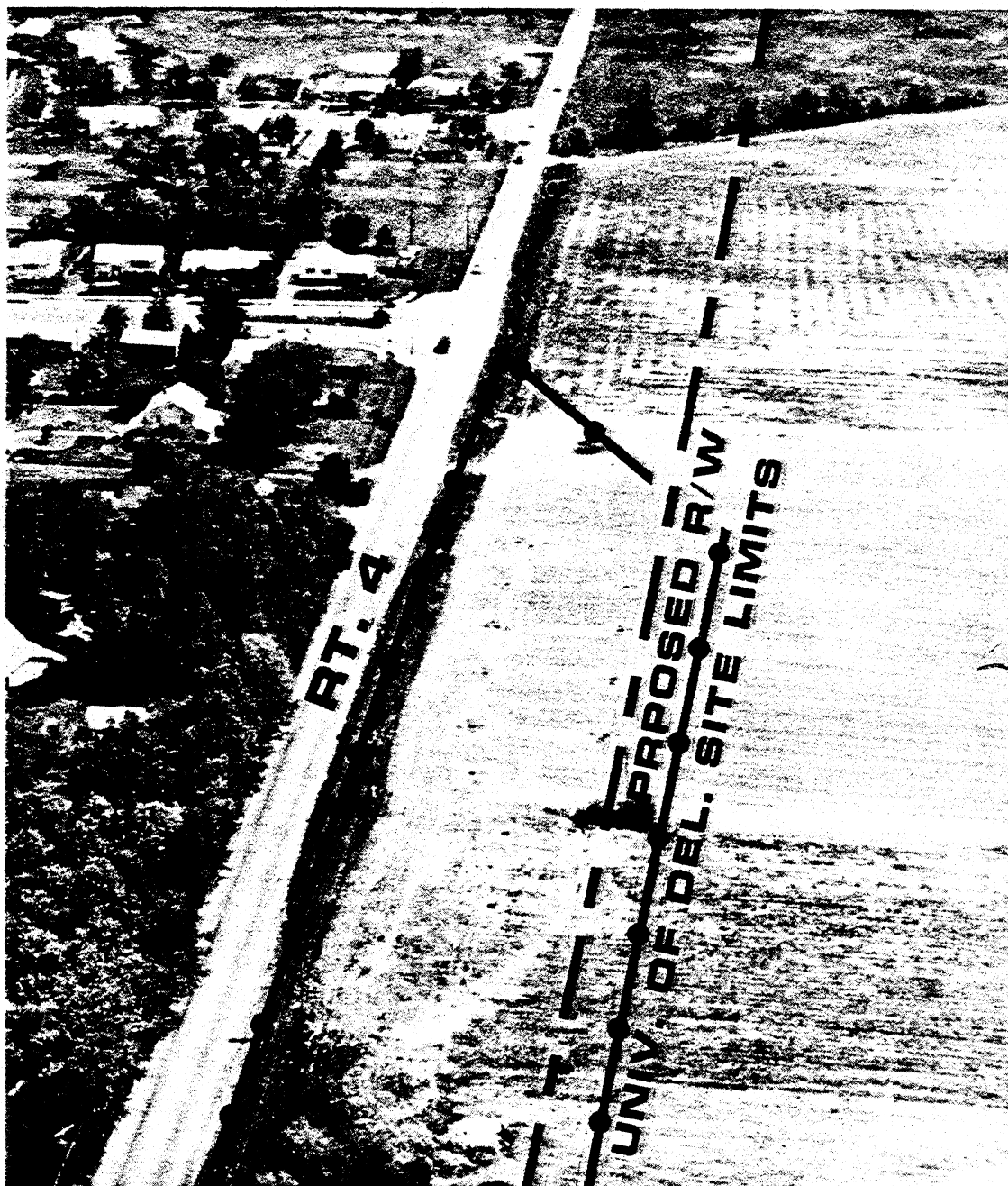


PLATE 2



SITE LOCATION
7NC-D-70

which were widely scattered throughout the proposed ROW (See Figure 2 for locations). These included 10 quartz, chert, and jasper flakes and three projectile points: (1) a chert, basally thinned, fluted projectile point (Plate 3); (2) a stemmed argillite point (Plate 4); and (3) a quartz stemmed point (Plate 5). These artifacts are described in more detail in the results section.

Based on the surface survey, which had revealed little concerning the slope west of the berm, it was decided that a combination of 1 x 1 meter test units and post holes would be employed to test the site. A total of 37 post holes were excavated. Twenty-one of these were concentrated on the berm in three north-south rows of 7 post holes per row, each 5 meters apart. The remaining 16 post holes were spaced 5 meters apart in a single line extending down the slope to the ephemeral stream. This line was offset between post holes #32 and #33 due to vegetation growth (see figure 2). The purpose of the post holes was to ascertain the subsurface integrity of the slope and the berm, including any cultural or natural features of buried organic materials.

The 1 x 1 meter test units were placed to provide a representative and controlled sample of the spatial limits of the site based on the wide distribution of the artifacts found in the controlled surface survey. A total of 18 test units were excavated, 12 on the berm and to the east of it, and 6 down the slope to the ephemeral stream. Three test units (S13E32; S20E15; S20E0) were excavated to investigate artifact distributions found on the berm. One test unit (S42E71) was placed in the vicinity of the argillite point find. The remainder of the units were regularly spaced throughout the site, except for test units S13E100 and S17E100 which were excavated to investigate a jasper flake which was recovered from a sub-surface context in test unit S15E99.

PLATE 3
CHERT PALEO-POINT BIFACE

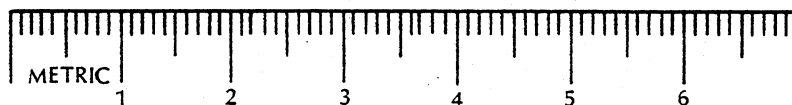
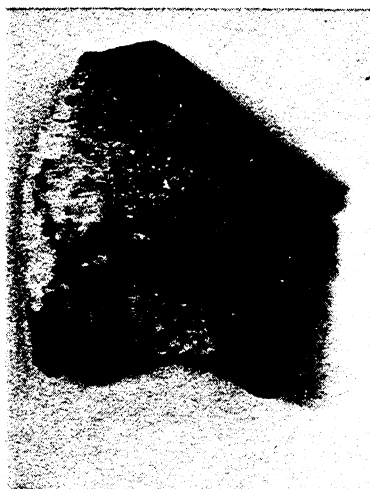


PLATE 4
ARGILLITE STEMMED POINT

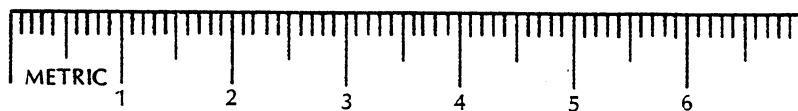
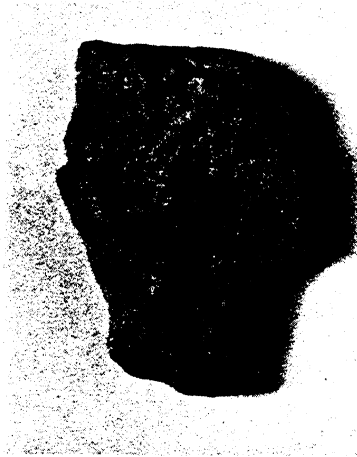
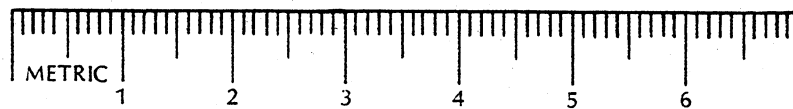


PLATE 5
QUARTZ SIDE-NOTCHED PROJECTILE POINT



The purpose of the test units on the berm and in the field east of it, was to identify the subsurface integrity and to determine artifact distribution in specific areas of the site. The purpose of the units excavated to the west of the berm was to identify subsurface integrity of any cultural materials. Also included would be buried organic deposits and fossil pollen data for analysis of past environments.

In order to more closely examine the buried organic remains encountered on the floodplain of the ephemeral stream, two backhoe trenches 3-4 meters in length were dug near test units S20E45 and S20E63. The purpose of these cuts was to obtain detailed stratigraphic recording and sampling strata for pollen analysis. Unfortunately, very rapid filling with ground water and the collapsing of the trench side walls made the collection of this data impossible. Sampling of the spoils from the trenches did not reveal any preserved organics nor any artifacts. An additional 35 1 x 1 meter test units were excavated in the berm area by members of the Archaeological Society of Delaware and the Society for Pennsylvania Archaeology, under the direction of the University of Delaware (see Figure 2). All of the test units extended to plowzone depth (approximately 20cm). The objectives for these units were to define the limits of distribution of the potential Paleo-Indian artifacts and collect additional artifacts.

Results

The test excavations carried out at 7NC-D-70 revealed a complex stratigraphy across the site (Figures 3 & 4). Profiles from the test excavation units are summarized and listed in Appendix II and profiles from the post hole tests are listed and summarized in Appendix III. Figure 3 shows a

cross-section of the stratigraphy of the site and a generalized block diagram of the site is shown in Figure 4. The soils from the site show a series of depositional events that have occurred in the area since the end of the Pleistocene. In the area between the ephemeral stream and the berm of the field there is evidence of major shifting of the course of the stream. Soils in the area include a modern humus and an older buried humus in the vicinity of the wooded area adjacent to the stream (Horizon H and #1, Fig. 3). In some locations older buried humus, or swamp edge, soils are noted well removed from the present course of the stream (Horizons #4 and 5, Fig. 3 and buried swamps noted on the block diagram). A soil horizon containing grey-orange clays and sands as well as a variety of water-rolled pebbles, gravels, and large cobbles surround the buried swamp soils (Horizons #5 and #6, Figure 3). These soils with water-rolled and sorted deposits represent former stream channels of the present stream and the buried swamps represent old stream edge wooded settings with poor drainage. The reasons for the movement of the stream channel are numerous and include changes in bed load and consequent adjustments of flow and gradient as well as climatic changes that would significantly alter the amount of water present. In some areas of the Middle Atlantic such changes in stream geomorphology have been linked in time to changes in climate (Curry and Custer 1982); however, there are no preserved plant remains or datable materials to allow such a correlation at 7NC-D-70. Nevertheless, it should be noted that most of the shifting of the stream bed took place after the deposition of the Late Pleistocene sediments noted in Figures 3 and 4 (eg. -Horizons #11 and #12, Fig. 3). Therefore, the significant changes in stream channel morphology are all Holocene in age and would have

FIGURE 3
7NC-D-70
PLACEMENT OF POST HOLES 1, 8, 15, 22-37 WITH ELEVATIONS ABOVE AND BELOW SITE DATUM AND SOIL SECTIONS
POST HOLES PLACED AT 5.0 METER INTERVALS
VERTICAL EXAGGERATION OF SLOPE - 5X
VERTICAL EXAGGERATION OF POST HOLE DEPTH - 10X

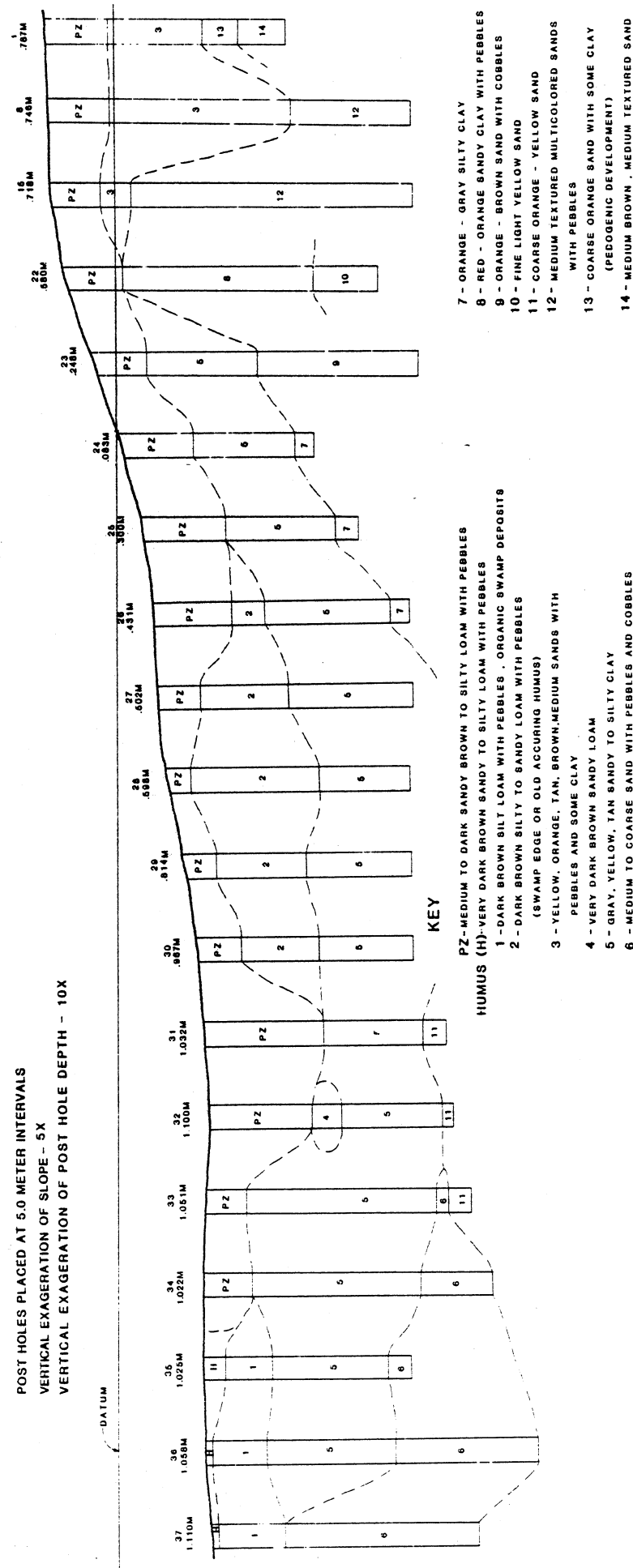
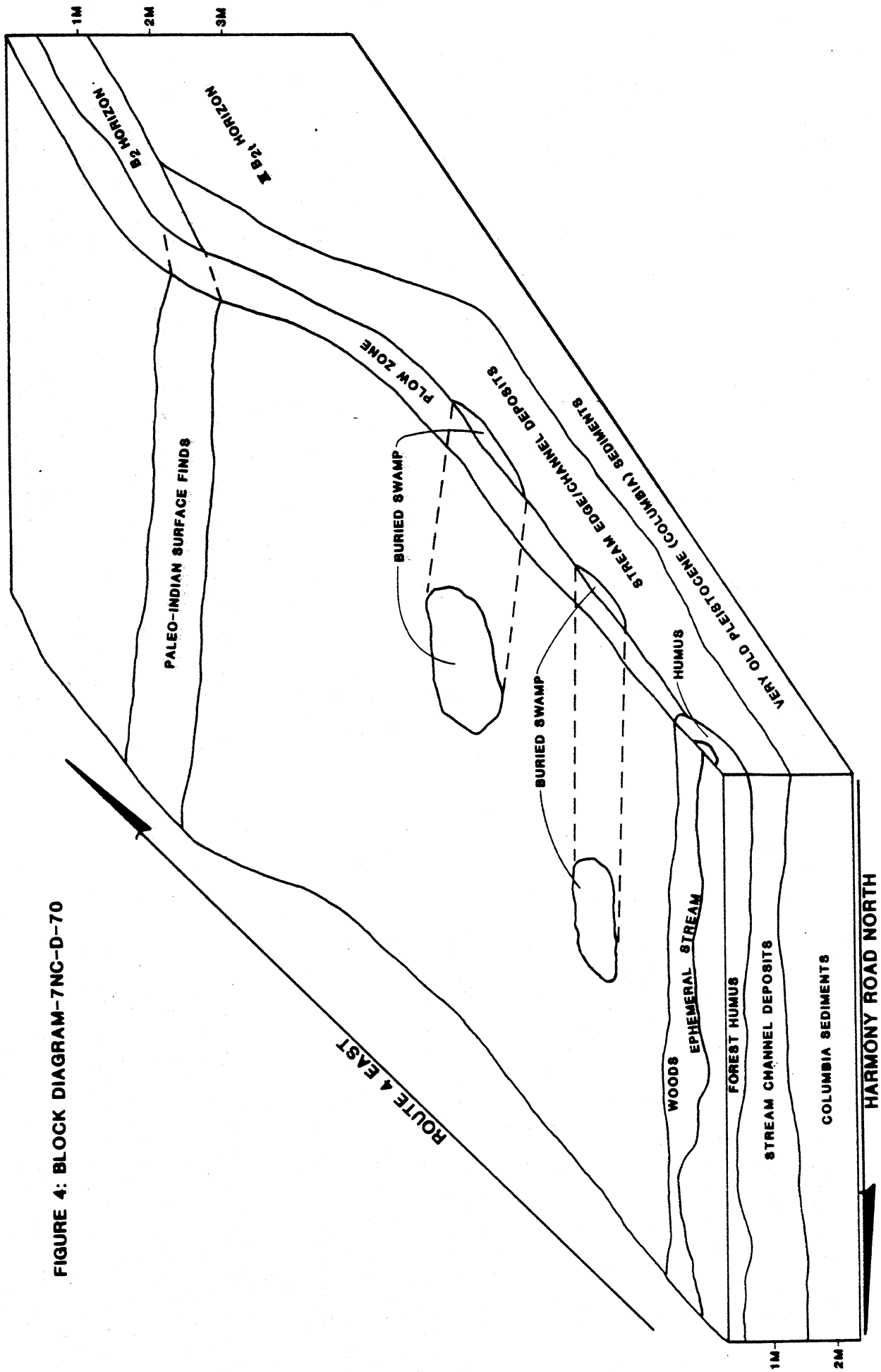


FIGURE 4: BLOCK DIAGRAM-7NC-D-70



destroyed any archaeological remains that would be found in this section of 7NC-D-70.

The area of the berm and adjacent flat showed a different set of depositional events through the Holocene. The plow zone, which covers all of the site, in this area overlies a buried argillic horizon (Horizon #3, Figure 3). This buried argillic horizon (noted as B₂ horizon in Figure 4) was probably deposited by aeolian activities. The presence of some structure and development of minor clay skins on individual soil particles is the basis for the designation of the soils as argillic and indicates an age of at least 3-4,000 years, possibly as old as 10,000 years. The B₂ argillic horizon in turn overlies another argillic horizon (Horizons #12 and #13, Fig. 3 and IIB_{2t}, Figure 4). The deeper argillic horizon is badly weathered across its surface and shows a very well developed set of clay coatings on individual soil particles. These features indicate an age of greater than 15,000 years and would not contain any artifacts. The older argillic horizon is in turn underlain by older Columbia (Pleistocene) deposits similar to those seen in the area of the ephemeral stream. In general, the top meter of deposits on the berm and adjacent flat areas is the only area that could contain buried artifacts. However, plowing has disturbed much of this area.

Numerous artifacts were recovered from the controlled surface collection and the excavation units and their age and distribution seem to fit with the estimated ages of soils and the geomorphological processes that deposited them. Appendix IV provides a summary catalogue of the artifacts recovered from the site. No artifacts were recovered from the surface collection and the sub-surface testing of the area adjacent to the stream and the lower

margins of the slope. The presence of buried swamps was originally thought to be a possible indication that exploitative activity areas might be encountered. However, the movement of the stream would have destroyed any archaeological remains and the presence of very poorly drained ground precluded any intensive prehistoric use of this section of the site.

The controlled surface collection and some sub-surface test units did produce artifacts from the berm and the upper margin of the slope. All artifacts were from the disturbed plow zone. Most of these artifacts were waste flakes and chunks from the manufacture of stone tools. Chert and quartz were the most common materials and many of these showed the presence of cortex. Also present from this area are a number of bifaces. One of the bifaces is a large quartzite cobble with a few initial edging flakes (Callahan 1979) removed. Other bifaces are chert and show evidence of manufacturing errors during the process of secondary reduction and thinning. Also present are two rejected and broken projectile points (Plates 4 and 5, 82/6/1/7, 82/6/1/10): an argillite straight-stemmed point and a quartz side-notched point. Neither of these projectile points are diagnostic of any particular time period and may date from anywhere between 6000 BC and AD 1000. Both projectile points show transverse fractures that are indicative of use as knives and cutting implements. The presence of bifaces in various stages of manufacture, flakes, and rejected tools suggests that refurbishing of tool kits was a major activity at the site. The presence of rejected tools with transverse fractures suggests some kind of processing activities.

Three additional artifacts from this area of the site are of special interest. All three artifacts were recovered from the surface and the

plowzone, as were almost all of the artifacts from the area of the berm. Included is a possible fluted point (Plate 3 - 82/6/1/2) of green-grey chert. This point is made from a flake and has shallow basal thinning flakes on the obverse surface. The basal portions of the flakes are slightly ground and the point exhibits a transverse fracture with some resharpening across the fracture. As such, the artifact does not represent a "typical" Paleo-Indian fluted point. Certainly it is not a Clovis point. However, it is more likely from the Paleo-Indian Period than any other time period. Some Woodland I Jacks Reef points have a similar shape and some basal thinning; however, the slightly excurvate shape of the blade of the point and indented base are not similar to Jacks Reef projectile points. Consultation with other archaeologists reinforced the opinion that the projectile point is more likely Paleo-Indian than anything else. However, it should be noted that the point by itself is not complete proof of a Paleo-Indian occupation at the site. Further checking of the literature also revealed that the point is similar to projectile points recovered from a Late Paleo-Indian context at the Turkey Swamp site in the Inner Coastal Plain of New Jersey (Cavallo 1981).

In addition to the possible Late Paleo-Indian point, two other artifacts are noteworthy. These two artifacts are depicted in Plates 6 and 7 (82/6/1/1 and 82/6/13) and represent flake tools. Artifact 82/6/1/1 is a side-scraper with heavy resharpening along the lateral edge and artifact 82/6/13 is an end scraper with heavy wear and resharpening along the proximal end and proximal sections of both lateral edges. These tools are not diagnostic of any time period; however it is not uncommon to find them in Paleo-Indian assemblages. They are indicative of processing activities, particularly processing of game

PLATE 6
RETOUCHED JASPER FLAKE

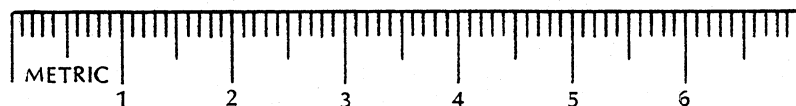
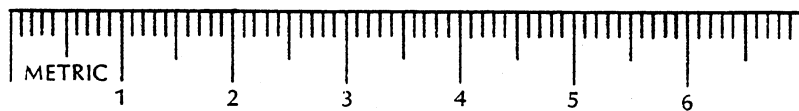


PLATE 7
JASPER END AND SIDE SCRAPER



animal resources, and when their presence is considered in light of the presence of the possible fluted point, the probability of a Paleo-Indian component present at 7NC-D-70 is strengthened.

The depositional context of the artifacts fits in with the previous discussion of soils at the site. The artifacts were recovered from the surface and plowzone on the edge of the berm and slope. As can be seen in Figure 4 the B₂ horizon outcrops in the plowzone in this section of the site. The estimated age of the soil based on its pedogenic characteristics was between 3000 and 10,000 years old. Such an age would be consistent with the presence of Late Paleo-Indian artifacts. However, in this section of the site all of the artifacts would be disturbed from their original context by plowing. It would be possible for some artifacts of this age to be present in situ in the older soils east of the berm.

Testing of the older soils west of the berm revealed few artifacts. Some Woodland I artifacts were recovered from the surface of the site by University of Delaware researchers and local collectors. No artifacts from either the Archaic or Paleo-Indian Period were recovered from the surface in this area. Sub-surface testing recovered only one artifact: a jasper flake in the B₂ horizon approximately 80 cm deep. This artifact was recovered in the initial stages of the testing and was seen as a possible indication of in situ, buried archaeological remains from the Archaic, or possibly, Paleo-Indian Period. Although additional test units were excavated in the area, no additional artifacts were recovered. These findings indicate that if there are any buried older artifacts in the area, they are very scattered and indicative of only ephemeral use of the site. Also, the top of the older argillic horizon was

weathered and eroded. If any artifacts were deposited on this surface, erosion of the surface, and the artifacts, could have taken place as the aeolian soils were deposited. In this scenario, the deeply buried flake would be only the remnant of an eroded and destroyed site.

Summary and Conclusions

The research at 7NC-D-70 recovered a variety of artifacts and revealed a number of varied depositional settings. In no areas of the site were prehistoric archaeological remains present in undisturbed contexts. In the section of the site closest to the ephemeral stream, natural erosion has disturbed most of the potential locations for prehistoric activity areas. Also, the poorly drained nature of this section of the site throughout most of the Late Pleistocene and Holocene makes it an unlikely location for intensive prehistoric activities. Nevertheless, the presence of backwater swamps and surface water makes the general locale a game-attractive area that would be an excellent site for hunting. The most likely place for prehistoric activities would be the berm of the field on the upper end of the slope. This area would represent the nearest well-drained surface adjacent to the good hunting locale. Indeed, in this section of the site a number of artifacts were recovered. The artifacts seem indicative of refurbishing of tool kits and processing activities, and would fit with the inferred use of the site as a hunting camp or processing camp. However, plowing and natural erosion along the berm have destroyed the context of any archaeological remains in this area. Moving away from the poorly drained area to the east of the berm, prehistoric activities associated with the swampy stream would be expected to diminish in frequency and the

artifacts show such a patterning. The buried flake from this area is most likely a remnant of such infrequent use of this area. Surely, if there was extensive prehistoric use of this section of the site the sub-surface testing program should have recovered more artifacts. Consequently, it is concluded that moving east of the berm artifacts are infrequent and the information potential of this section of the site is low.

Given the fact that there are no in situ archaeological remains at 7NC-D-70, and given the fact that continued research at the site is unlikely to significantly add to our understanding of the site's role in the local archaeology, the site is not considered to be eligible for the National Register of Historic Places and no further work is recommended. The research carried out to determine the eligibility of the site and previous work has produced useful information and further data gathered from the site is most likely to be redundant.

The role of the site should be considered in light of local prehistory. The environmental setting of the site from the Late Pleistocene through the Holocene suggests that the area was attractive to game and a good hunting site. Archaeological remains from the site indicate that the site was used for the hunting and processing of game animals between 10,000 BC and AD 1000. Tools broken in use at the site were discarded and new replacements manufactured from the locally-available cobble deposits. Throughout the history of its use it is unlikely that the activities carried out at the site varied greatly, although the location of various activities shifted slightly as the course of the stream and the location of buried swamps moved in response to climatic changes. In sum, the site represents a very specialized set of

activities and use of the site remained relatively consistent for at least 10,000 years.

Although the site use remained the same for this period of time, its role in regional settlement patterns may have been altered through time. During the Paleo-Indian Period this site may have been a stopping point in a migratory round that visited a series of varied hunting and quarry source locations. Similar patterns probably persisted well into the Archaic; however, as societies became increasingly sedentary throughout the Woodland I Period the site would no longer represent a stop in a seasonal movement cycle. By the Woodland I Period, 7NC-D-70 was probably an outlying hunting station that helped to support a more sedentary population at one of the nearby base camps, such as the Clyde Farm Site near Churchmans Marsh. As such, the role of the site in regional settlement patterns would have changed dramatically even though the actual activities at the site itself would have changed very little. Nonetheless, although the archaeological remains at 7NC-D-70 reveal interesting patterns of human land use during the prehistoric past, the absence of in situ remains with good context precludes both its inclusion on the National Register and further work at the site.

Current Research 7NC-D-72

Introduction and Research Methods

The research objectives for the current investigation of 7NC-D-72 were identical to those for 7NC-D-70. They were directed towards the determination of eligibility of the site for inclusion on the National Register of Historic

Places. Determination of eligibility included the definition of the site limits and the determination of the contextual integrity at the site. As indicated earlier in this report, 7NC-D-72 (Figure 5 and Plate 8) is located on a poorly drained area adjacent to a small stream. The original site limits as defined by Thomas (1980) described an area approximately 50 meters from the small stream, on both sides of Route 4. Current investigation of the site expanded the boundary south of Route 4 to include the better drained high ground east of the stream. This extended the site limits eastward 110 meters to the Omega hospital construction access road within the proposed right of way.

The excavation at 7NC-D-72 consisted of ten 1 x 1 meter test units, 160 post holes, and one stream bank strata cut (see Figure 5). Since the proposed ROW was only 8 meters wide north of Route 4, five 1 x 1 meter test units were placed in that area, 6 meters north of the road and 10 meters apart. This placement insured adequate coverage of this area of the site with regards to our research objectives. One of these units, test unit E, was placed in the ROW but out of the site limits. Its location was to help determine the extent of the cobble deposits in the area. South of Route 4 the ROW was 36 meters wide. Only two test units were placed here. One, test unit F, was 17.5 meters south of the road, and the other, test unit G, was 32.6 meters south. The reduced number of units was due to the very poorly drained nature of the soils in the vicinity. When the site limits were extended to include the high ground east of these units, a post hole grid was established to afford adequate stratigraphic coverage of the slope. Later, test units I and J were excavated to correlate the soil stratigraphy of the poorly drained area with the soil stratigraphy of the slope. The final test unit, unit H, was placed north of

FIGURE 5
7NC-D-72
TEST UNIT & POST HOLE GRID LOCATION MAP

KEY:

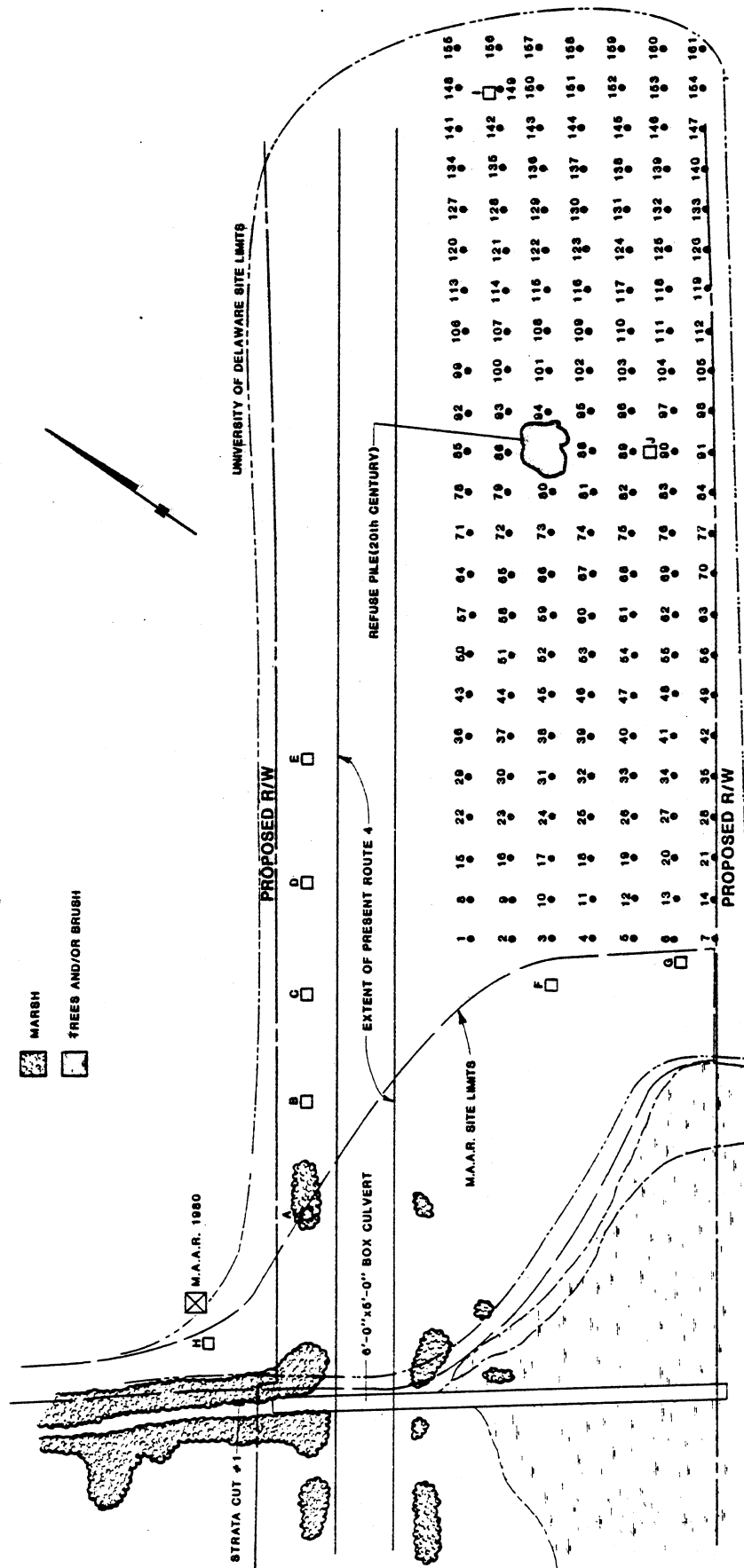
SITE: 7NC-D-72

1 thru 161 POST HOLES

A thru J 1m x 1m TEST UNITS

MARSH

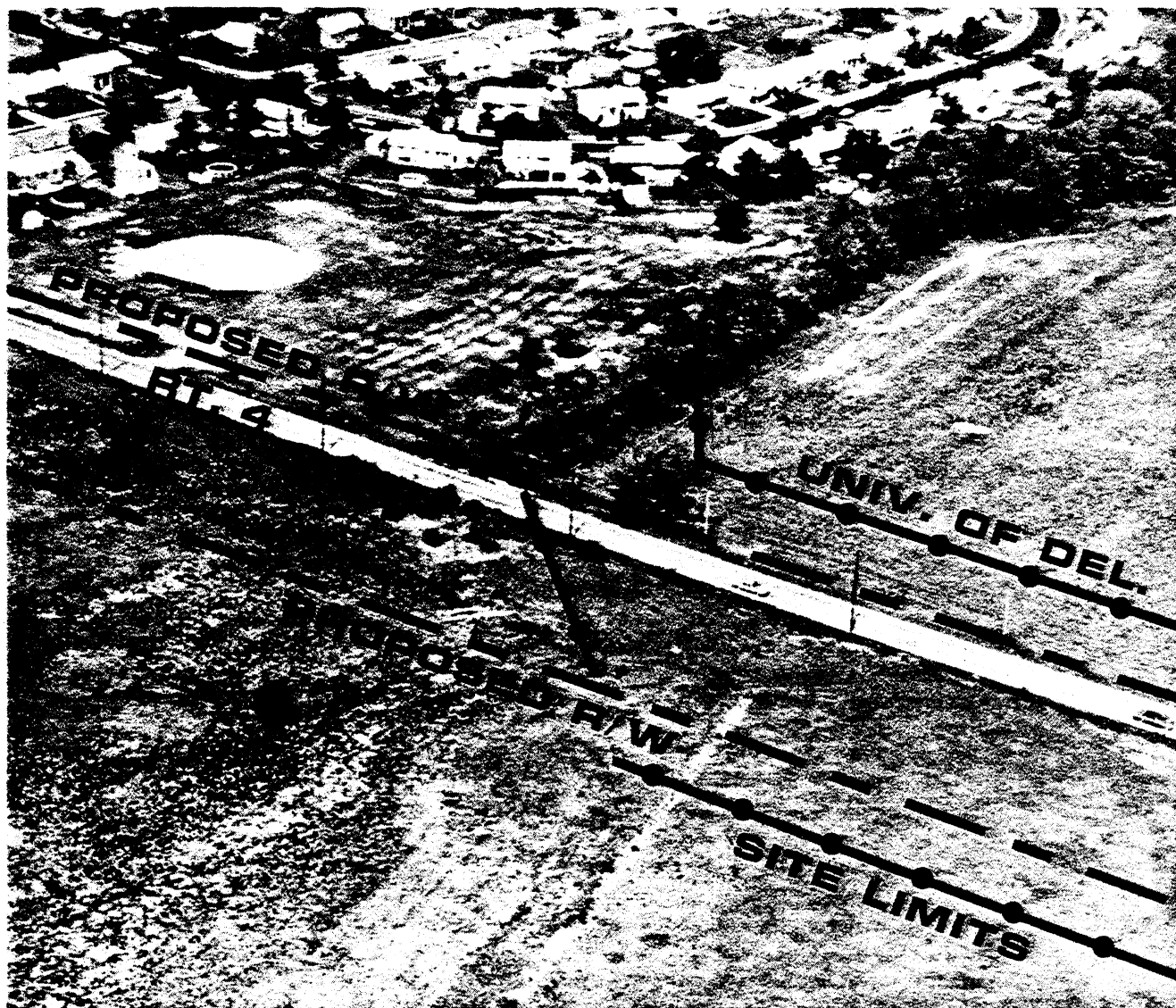
TREES AND/OR BRUSH



29.2 0 29.2 58.4
SCALE IN METERS

60 0 60 120
SCALE IN FEET

PLATE 8



SITE LOCATION
7NC-D-72

Route 4 and out of the ROW, but within the site limits. This unit was excavated for the purposes of identifying the subsurface stratigraphy and determining the extent of the cobble deposits north of Route 4.

The investigation was undertaken between the months of February and March, 1982. Throughout the project, climatic conditions (ie.; snow, sleet, ice, winds) hampered the execution of the work. Recent snowmelt had raised the area's already high water table to virtually ground level, particularly south of Route 4, making excavation difficult and, as previously stated, influencing the placement of test units.

Results

Profiles from all excavated test units, post holes, strata cuts are listed in Appendices V, VI, and VII. A summary catalogue of the few artifacts recovered is included as Appendix VIII. Of the items listed in Appendix VIII, less than 10 are clear cut examples of waste materials from the manufacture of stone tools. The remainder do not show good evidence of distinctive flake morphology indicative of human tool manufacturing activities. Although the manufacture of stone tools from cobbles produces debitage that does not show good flake morphology, some clear-cut flakes and rejected bifaces should be present. For example, site 7NC-D-70, described earlier in this report, contained evidence of tool manufacturing from cobble deposits and in addition to flakes with well-defined morphology, a variety of broken bifaces were present. However, at 7NC-D-72 no similar assemblage was encountered. Even when the artifacts from the previous study of the location are considered, there is an insufficient number of flakes with well-defined morphology to

consider the location an archaeological site of anything but the most ephemeral use. Given the total context of the assemblage from 7NC-D-72, it can be stated that the current excavations produced less than 10 artifacts scattered throughout the limits of the site within the ROW.

The profiles from the various test units in the main area of the site defined by Thomas (1980) reveal poorly drained conditions. Gleyed horizons are common and soils beneath the plow zone contain large amounts of clay development around extensive pebble and cobble deposits. The extensive clay skins and cobbles are indicative of soils of Late Pleistocene age and there are no buried landscapes present in the site area that could support archaeological sites. Profiles from the well drained areas east of the main site area defined by Thomas (1980) are similar to those of the poorly drained area with the addition of some wind-blown deposits of Holocene age. No artifacts were discovered from these deposits and the presence of any undiscovered sites given the extensive posthole testing is unlikely.

Summary and Conclusions

Fewer than 10 reliable artifacts were recovered from 7NC-D-72 and most of the site has been poorly drained throughout the Late Pleistocene and Holocene. In the few well-drained areas of the site, no artifacts were recovered. Although cobble reduction sites often contain flakes without well-defined morphology, site 7NC-D-72 lacks even the minimal number of flakes and biface fragments to consider it a cobble reduction site. At best, the site was the location of one or two tool manufacturing activities. Plowing has destroyed most of the Holocene landscapes and poorly drained conditions make

the presence of other buried landscapes unlikely. Indeed, the presence of cobble deposits near the surface, which supposedly make the site an attractive location, preclude the existence of buried land surfaces of Holocene age. Given the absence of reliable artifact assemblages and the absence of any buried landscapes, the site is not eligible for nomination to the National Register of Historic Places and no further work is recommended.

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PERSONNEL

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APPENDIX I:
7NC-D-70 - TEST UNIT PROFILES

7NC-D-70, SOILS KEY

Horizon No.	Description
Pz	plowzone, medium to dark brown sandy to silty loam with pebbles
(H)	humus; very dark brown sandy to silty loam with pebbles
1	dark brown silt loam with pebbles; organic swamp deposits
2	dark brown silty to sandy loam with pebbles (swamp edge or old accruing humus)
3	yellow, orange, tan, brown, medium sands with pebbles and some clay
4	medium to dark brown silty to sandy loam
5	light gray, gray, yellow, tan sandy to silty clay
6	medium to coarse sand with pebbles and cobbles
7	orange-gray silty to sandy clay
8	red-orange sandy clay with pebbles
9	orange-brown sand with pebbles
10	medium to fine light yellow to yellow sand
11	coarse orange-yellow sand
12	medium textured multi-colored sands with pebbles
13	coarse orange sand with some clay (pedogenic development)
14	medium brown, medium textured sands
15	tan-yellow sandy silt
16	light tan-yellow sandy silt
17	orange-tan and light brown-gray sandy silt
18	orange fine to medium sand
19	multi-colored sandy clay with pebbles and cobbles
20	medium gray silt

7NC-D-70, SOILS KEY (continued)

Horizon No.	Description
21	yellow-brown silty clay
22	yellow-brown sandy clay
23	orange-brown clay loam
24	orange-tan sandy clay

APPENDIX I: Profiles of Test Units, 7NC-D-70

<u>Excavation Unit No.</u>		<u>Horizon #</u>
S37E32:	0 - 20 cm	PZ
	20 - 50 cm	4
	50 - 100 cm	5
S42E71:	0 - 22 cm	PZ
	22 - 100 cm	15
	100 - 120 cm	16
	120 - 240 cm	16/17 alternating bands
S15E99:	0 - 23 cm	PZ
	23 - 68 cm	15
	68 - 78 cm	5
	78 - 100 cm	17
S20E15:	0 - 20 cm	PZ
	20 - 52 cm	5
	52 - 70 cm	13
	70 - 83 cm	12
S20EO:	0 - 25 cm	PZ
	25 - 65 cm	4
	65 - 86 cm	13
	86 - 120 cm	18
	120 - 170 cm	9
S20E45:	0 - 7 cm	PZ
	7 - 30 cm	
	30 - 34 cm	4
	34 - 46 cm	5
S20E63:	0 - 18 cm	H
	18 - 34 cm	1
	34 - 46 cm	6
	46 - 90 cm	19
	90 - 136 cm	20
S17E100:	0 - 24 cm	PZ
	24 - 40 cm	6
	40 - 100 cm	5
S13E100:	0 - 30 cm	PZ
	30 - 88 cm	6
	88 - 100 cm	5
	100 - 110 cm	12

<u>Excavation Unit No.</u>		<u>Horizon #</u>
S13E85:	0 - 30 cm	PZ
	30 - 60 cm	
	60 - 80 cm	21
	80 - 96 cm	22
S13E70:	0 - 38 cm	PZ
	38 - 93 cm	23
	93 - 96 cm	7
S13E53:	0 - 36 cm	PZ
	36 - 70 cm	5
	70 - 84 cm	
S13E40:	0 - 20 cm	PZ
	20 - 114 cm	23
	114 - 120 cm	13
S37E85:	0 - 30 cm	PZ
	30 - 90 cm	24
	90 - 116 cm	5
	116 - 134 cm	18
S37E70:	0 - 20 cm	PZ
	20 - 100 cm	4
	100 - 124 cm	5
	124 - 142 cm	
	142 - 150 cm	7
S37E55:	0 - 20 cm	PZ
	20 - 65 cm	7
	65 - 80 cm	5
	80 - 95 cm	
	95 - 102 cm	13
S37E40:	0 - 20 cm	PZ
	20 - 50 cm	7
	50 - 90 cm	24
	90 - 110 cm	5

APPENDIX II:
7NC-D-70 - POST HOLE PROFILES

APPENDIX II: Profiles of Post Holes, 7NC-D-70

<u>Post Hole No.</u>	<u>Depth Below Surface (cm)</u>	<u>Horizon No.</u>
1	0 - 26	PZ
	26 - 65	3
	65 - 80	13
	80 - 100	14
2	0 - 23	PZ
	23 - 49	3
	49 - 80	5
	80 - 96	7
3	0 - 19	PZ
	19 - 49	23
	49 - 86	3
	86 - 90	13
4	0 - 22	PZ
	22 - 50	5
	50 - 135	5
	135 - 139	13
5	0 - 17	PZ
	17 - 79	5
	79 - 120	8
6	0 - 33	PZ
	33 - 120	5
7	0 - 20	PZ
	20 - 70	24
	70 - 98	22
8	0 - 25	PZ
	25 - 108	3
	108 - 150	12
9	0 - 18	PZ
	18 - 82	5
	82 - 140	11
10	0 - 24	PZ
	24 - 50	23
	50 - 65	15
	65 - 84	3

<u>Post Hole No.</u>	<u>Depth Below Surface (cm)</u>	<u>Horizon No.</u>
11	0 - 23	PZ
	23 - 80	5
	80 - 101	7
12	0 - 6	PZ
	6 - 32	23
	32 - 61	22
	61 - 69	5
	69 - 72	3
	72 - 95	19
13	0 - 12	PZ
	12 - 54	23
	54 - 90	22
14	0 - 23	PZ
	23 - 68	5
	68 - 93	24
	93 - 101	3
15	0 - 20	PZ
	20 - 33	3
	33 - 150	12
16	0 - 16	PZ
	16 - 85	3
	85 - 152	
17	0 - 21	PZ
	21 - 72	3
	72 - 90	10
18	0 - 19	PZ
	19 - 43	5
	43 - 58	3
	58 - 66	
	66 - 123	5
19	0 - 14	PZ
	14 - 56	22
	56 - 123	3
20	0 - 15	PZ
	15 - 32	17
	32 - 53	5
	53 - 100	19

<u>Post Hole No.</u>	<u>Depth Below Surface (cm)</u>	<u>Horizon No.</u>
21	0 - 15 15 - 105	PZ 15
22	0 - 24 24 - 103 103 - 130	PZ 8 10
23	0 - 22 22 - 68 68 - 135	PZ 5 9
24	0 - 30 30 - 72 72 - 80	PZ 5 7
25	0 - 35 35 - 80 80 - 90	PZ 5 7
26	0 - 32 32 - 46 46 - 98 98 - 100	PZ 2 5 7
27	0 - 18 18 - 54 54 - 106	PZ 2 5
28	0 - 10 10 - 63 63 - 101	PZ 2 5
29	0 - 13 13 - 50 50 - 94	PZ 2 5
30	0 - 18 18 - 50 50 - 89	PZ 2 5
31	0 - 49 49 - 90 90 - 100	PZ 5 11
32	0 - 42 42 - 54 54 - 96 96 - 100	PZ 4 5 11

<u>Post Hole No.</u>	<u>Depth Below Surface (cm)</u>	<u>Horizon No.</u>
33	0 - 16	PZ
	16 - 95	5
	95 - 100	6
	100 - 110	11
34	0 - 20	PZ
	20 - 90	5
	90 - 120	6
35	0 - 8	(H)
	8 - 28	1
	28 - 76	5
	76 - 86	6
36	0 - 8	(H)
	8 - 25	1
	25 - 78	5
	78 - 130	6
37	0 - 7	(H)
	7 - 30	1
	30 - 110	6

APPENDIX III:
7NC-D-70 - ARTIFACT INVENTORY

APPENDIX III; Artifact Inventory, 7NC-D-70

<u>CSC No.</u>	<u>Controlled Surface Collection</u>
1	jasper flake tool*
2	chert paleo-point*
3	quartz flake
4	quartz flake chunk
5	quartz flake
6	quartz flake
7	quartz projectile point*
8	quartz flake
9	quartz chunk
10	argillite projectile point*
11	chert flake
12	jasper flake
13	chert chunk (core?)

	<u>General Surface Collection</u>
20 meters out of ROW	chert flake
20 meters south of post hole #7 (out of ROW)	chert flake, with cortex chert flake chert chunk 3 quartz flakes partial quartz biface
Out of ROW	2 chert flakes quartz flake quartzite flake, with cortex quartzite flake quartzite core (6-7 in. long)

	<u>Test Units</u>
S20E0 plowzone: (0-20 cm)	quartzite flake
S15E99 plowzone: (0-20 cm)	jasper flake
S20E45 plowzone: (0-20 cm)	jasper flake chert flake, with cortex quartz flake
S37E70 (50-60 cm)	quartz chunk

APPENDIX III: Artifact Inventory, 7NC-D-70, continued

Plowzone Test Units (0-20 cm)
(Archaeological Society of Delaware)

S37E70 (50-60 cm):	quartz chunk
S12E12	quartz biface tip
	2 chert chunks
S18E16	burnt jasper flake
S24E12	chert chunk
S24E15	jasper flake
S26E19	quartzite fire-cracked rock
S28E12	jasper end-and-side scraper*
S36E15	quartzite flake
	chert flake
	chert chunk

Post Holes

Post Hole #6	jasper flake
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* = pictured in Plates 3-7

APPENDIX IV:
7NC-D-72 - TEST UNIT PROFILES

7NC-D-72, SOILS KEY

Horizon No.	Description
Pz	plowzone, medium to dark brown sandy to silty loam with pebbles
1	gray, orange, tan, yellow, brown silty clay; may be mottled
2	gray sand with pebbles
3	yellow to gray sandy silt
4	orange and gray clay to clay loam
5	light gray and orange silty to sandy clay
6	tan-orange and brown-tan silty clay with pebbles
7	orange, tan, yellow, gray, sandy clay with pebbles
8	orange, yellow, tan, or gray clay
9	red and gray silty to sandy clay with pebbles
10	sands (red, yellow, orange, gray)
11	construction fill - yellow clay, topsoil with pebbles, disturbed

APPENDIX IV, Profiles of Test Units, 7NC-D-72

<u>Test Unit</u>	<u>Depth Below Surface (cm)</u>	<u>Horizon #</u>
Test Unit A	0 - 18	PZ
	18 - 50	6
	50 - 90	10
Test Unit B	Not Profiled	
Test Unit C	0 - 20	PZ
	20 - 37	7
	37 - 54	8
	54 - 60	10
Test Unit D	Not Profiled	
Test Unit E	0 - 28	PZ
	28 - 43	7
	43 - 64	1
	64 - 68	10
Test Unit F	0 - 22	PZ
	22 - 60	7
Test Unit G	0 - 24	PZ
	24 - 50	7
Test Unit H	0 - 20	PZ
	20 - 60	10
Test Unit I	0 - 20	PZ
	20 - 42	7
	42 - 50	
	50 - 68	
Test Unit J	0 - 23	PZ
	23 - 36	7
	36 - 60	

APPENDIX V

7NC-D-72 - POST HOLE PROFILES

APPENDIX V: Profiles of Post Holes, 7NC-D-72

<u>Post Hole No.</u>	<u>Depth Below Surface (cm)</u>	<u>Horizon No.</u>
1	0 - 33 33 - 67	PZ 1
2	0 - 30 30 - 60	PZ 1
3	0 - 20 20 - 33 33 - 58	PZ 3 1
4	0 - 15 15 - 34 34 - 60	PZ 3 1
5	0 - 20 20 - 58	PZ 1
6	0 - 20 20 - 60	PZ 1
7	0 - 22 22 - 58 58 - 68	PZ 1 2
8	0 - 25 25 - 61	PZ 4
9	0 - 24 24 - 62	PZ 1
10	0 - 20 20 - 62	PZ 1
11	0 - 34 34 - 60	PZ 1
12	0 - 22 22 - 56	PZ 1
13	0 - 24 24 - 72	PZ 1
14	0 - 28 28 - 63	PZ 1

<u>Post Hole No.</u>	<u>Depth Below Surface (cm)</u>	<u>Horizon No.</u>
15	0 - 45 45 - 63 63 - 70	PZ 1 5
16	0 - 28 28 - 56 56 - 62	PZ 1 5
17	0 - 28 28 - 53 53 - 66	PZ 1 5
18	0 - 20 20 - 47 47 - 62	PZ 1 5
19	0 - 23 23 - 50 50 - 58	PZ 1 5
20	0 - 18 18 - 47 47 - 63	PZ 1 5
21	0 - 26 26 - 44 44 - 60	PZ 5 2
22	0 - 44 44 - 64	PZ 1
23	0 - 28 28 - 50 50 - 60	PZ 6 4
24	0 - 32 32 - 52 52 - 68	PZ 6 7
25	0 - 31 31 - 55 55 - 70	PZ 1
26	0 - 30 30 - 73	PZ 3

<u>Post Hole No.</u>	<u>Depth Below Surface (cm)</u>	<u>Horizon No.</u>
27	0 - 25 25 - 55	PZ 1
28	0 - 25 25 - 40 40 - 57	PZ 1
29	0 - 30 30 - 56 56 - 68	PZ 1 8
30	0 - 24 24 - 46 46 - 68	PZ 1 5
31	0 - 25 25 - 60	PZ 7
32	0 - 27 27 - 56	PZ 1
33	0 - 22 22 - 49	PZ 1
34	0 - 34 34 - 40 40 - 68	PZ 6 1
35	0 - 19 19 - 48	PZ 9
36	0 - 24 24 - 42 42 - 56	PZ 3
37	0 - 22 22 - 53	PZ 1
38	0 - 20 20 - 57	PZ 9
39	0 - 15 15 - 39 39 - 56	PZ 1 3
40	0 - 13 13 - 59	PZ 6

<u>Post Hole No.</u>	<u>Depth Below Surface (cm)</u>	<u>Horizon No.</u>
41	0 - 20	PZ
	20 - 30	1
42	0 - 20	PZ
	20 - 44	1
	44 - 61	10
43	0 - 16	PZ
	16 - 43	9
	43 - 60	10
44	0 - 21	PZ
	21 - 50	1
	50 - 60	
45	0 - 23	PZ
	23 - 50	9
46	0 - 25	PZ
	25 - 60	3
47	0 - 23	PZ
	23 - 57	10
	57 - 72	9
48	0 - 24	PZ
	24 - 58	1
49	0 - 7	PZ
	7 - 59	9
50	0 - 26	PZ
	26 - 44	1
	44 - 56	7
51	0 - 17	PZ
	17 - 49	10
	49 - 60	9
52	0 - 26	PZ
	26 - 78	1
	78 - 70	1
53	0 - 16	PZ
	16 - 44	10
	44 - 76	9

<u>Post Hole No.</u>	<u>Depth Below Surface (cm)</u>	<u>Horizon No.</u>
54	0 - 25 25 - 46 46 - 80	PZ 1 10
55	0 - 26 26 - 10 70 - 80	PZ 10 2
56	0 - 20 20 - 73 73 - 78	PZ 1 9
57	0 - 36 36 - 42	PZ 10
58	0 - 20 20 - 60	PZ 1
59	0 - 20 20 - 46 46 - 54	PZ 10 9
60	0 - 28 28 - 50 50 - 70	PZ 6 10
61	0 - 33 33 - 87	PZ 7
62	0 - 22 22 - 37 37 - 78	PZ 10 10
63	0 - 25 25 - 46 46 - 74	PZ 1 10
64	0 - 27 27 - 67 67 - 80	PZ 1 7
65	0 - 15 15 - 59	PZ 9
66	0 - 22 22 - 46 46 - 57	PZ 1 7

<u>Post Hole No.</u>	<u>Depth Below Surface (cm)</u>	<u>Horizon No.</u>
67	0 - 22	12
	22 - 53	10
	53 - 61	9
68	0 - 23	PZ
	23 - 44	1
	44 - 60	7
69	0 - 25	PZ
	25 - 70	7
70	0 - 26	PZ
	26 - 47	1
	47 - 68	7
71	0 - 19	PZ
	19 - 53	9
	53 - 57	10
72	0 - 22	PZ
	22 - 41	1
	41 - 74	7
73	0 - 18	PZ
	18 - 48	9
	48 - 60	10
74	0 - 20	PZ
	20 - 46	1
	46 - 72	7
75	0 - 19	PZ
	19 - 60	10
76	0 - 21	PZ
	21 - 80	7
77	0 - 22	PZ
	22 - 71	10
78	0 - 26	PZ
	26 - 45	7
	45 - 68	
79	0 - 19	PZ
	19 - 52	10
	52 - 62	9

<u>Post Hole No.</u>	<u>Depth Below Surface (cm)</u>	<u>Horizon No.</u>
80	0 - 20 20 - 70	PZ 7
81	0 - 22 22 - 67	PZ 7
82	0 - 20 20 - 74	PZ 7
83	0 - 18 18 - 67	PZ 7
84	0 - 24 24 - 70	PZ 1
85	0 - 26 26 - 62 62 - 74	PZ 7 1
86	0 - 15 15 - 76	PZ 7
87	NOT COMPLETED	
88	0 - 18 18 - 79	PZ 10
89	0 - 22 22 - 63	PZ 1
90	0 - 15 15 - 30 30 - 39 39 - 56	PZ 9 10 8
91	0 - 18 18 - 54	PZ 1
92	0 - 23 23 - 66	PZ 10
93	0 - 21 21 - 84	PZ 1
94	0 - 28 28 - 66 66 - 100	PZ 10 9

<u>Post Hole No.</u>	<u>Depth Below Surface (cm)</u>	<u>Horizon No.</u>
95	0 - 21 21 - 74	PZ 1
96	0 - 22 22 - 48	PZ 10
97	0 - 19 19 - 48	PZ 10
98	0 - 25 25 - 30 30 - 50	PZ 10 1
99	0 - 26 26 - 67	PZ 1
100	0 - 22 22 - 72	PZ 10
101	0 - 22 22 - 65	PZ 7
102	0 - 78 78 - 56 56 - 64	PZ 7 9
103	0 - 10 10 - 50 50 - 58	PZ 1 8
104	0 - 5 5 - 32 32 - 50	PZ 10 9
105	0 - 17 17 - 25 25 - 54	11 PZ 1
106	0 - 19 19 - 54 54 - 60	PZ 10 9
107	0 - 14 14 - 73	PZ 7
108	0 - 19 19 - 66	PZ 10

<u>Post Hole No.</u>	<u>Depth Below Surface (cm)</u>	<u>Horizon No.</u>
109	0 - 16 16 - 24 24 - 57	11 PZ 7
110	0 - 3 3 - 44 44 - 62	PZ 10 9
111	0 - 26 26 - 62 62 - 70 70 - 85	11 1 6 5
112	0 - 2 2 - 24 24 - 39 39 - 58	PZ 11 10 9
113	0 - 22 22 - 65	PZ 1
114	0 - 18 18 - 51 51 - 57	PZ 10 9
115	0 - 12 12 - 22 22 - 63	11 PZ 1
116	0 - 2 2 - 19 19 - 46 46 - 58	PZ 10 7 9
117	0 - 42 42 - 55	11 1
118	0 - 4 4 - 38 38 - 58	PZ 11 9
119	0 - 30 30 - 40 40 - 63	11 6 1
120	0 - 20 20 - 50 50 - 70	PZ 7

<u>Post Hole No.</u>	<u>Depth Below Surface (cm)</u>	<u>Horizon No.</u>
121	0 - 19 19 - 60 60 - 66	PZ 10 9
122	0 - 22 22 - 54	PZ 1
123	0 - 20 20 - 47 47 - 64	PZ 10 9
124	0 - 14	PZ
125	0 - 14 14 - 35 35 - 63	11 PZ 1
126	0 - 3 3 - 15 15 - 39 39 - 56	PZ 11 10 9
127	0 - 22 22 - 72	PZ 7
128	0 - 18 18 - 65	PZ 10
129	0 - 19 19 - 56	PZ 1
130	0 - 19 19 - 60 60 - 68	PZ 10 9
131	0 - 19 19 - 39	PZ 3
132	0 - 19 19 - 53 53 - 64	PZ 10 9
133	0 - 22 22 - 82	PZ 1
134	0 - 15 15 - 32 32 - 60	PZ 10

<u>Post Hole No.</u>	<u>Depth Below Surface (cm)</u>	<u>Horizon No.</u>
135	0 - 16 16 - 64	PZ 7
136	0 - 15 15 - 30 30 - 59	PZ 10
137	0 - 17 17 - 54	PZ 1
138	0 - 15 15 - 40 40 - 54	PZ 10 9
139	0 - 4 4 - 33 33 - 70	11 PZ 1
140	0 - 4 4 - 29 29 - 47 47 - 60	11 7 10 9
141	0 - 22 22 - 10	PZ 1
142	0 - 15 15 - 25 25 - 60	11 PZ 10
143	0 - 4 4 - 70	11 1
144	0 - 16 16 - 31 31 - 58	11 10
145	0 - 22 22 - 56 56 - 74	PZ 1 7
146	0 - 12 12 - 26 26 - 50	11 PZ 10
147	0 - 27 27 - 71	PZ 1

<u>Post Hole No.</u>	<u>Depth Below Surface (cm)</u>	<u>Horizon No.</u>
148	0 - 22	11
	22 - 37	PZ
	37 - 65	10
149	0 - 28	11
	28 - 46	PZ
	46 - 65	1
	65 - 78	7
150	0 - 14	11
	14 - 42	PZ
	42 - 69	10
151	0 - 4	PZ
	4 - 67	1
152	0 - 12	PZ
	12 - 53	10
	53 - 60	9
153	0 - 39	11
	39 - 77	1
154	0 - 23	PZ
	23 - 58	10
	58 - 64	9
155	0 - 27	PZ
	27 - 76	1
156	0 - 28	11
	28 - 70	10
157	0 - 26	11
	26 - 38	PZ
	38 - 76	7
158	0 - 18	PZ
	18 - 60	10
159	0 - 19	PZ
	19 - 58	1
160	0 - 60	11
	60 - 70	10
161	0 - 19	PZ
	19 - 56	1

APPENDIX VI:
7NC-D-72 - STRATA CUT

Appendix VI, Profile of Stream Bank Strata Cut, 7NC-D-72

Depth Below Surface

0 - 16cm
16 - 27cm
27 - 46cm

Horizon

PZ - Light to Medium Brown Sandy Loam
Dark Brown Loam
Gray Brown Clay Loam

APPENDIX VII:
7NC-D-72 - ARTIFACT INVENTORY

APPENDIX VII: Artifact Inventory, 7NC-D-72

<u>Excavation Unit</u>	<u>Contents</u>
Test Units:	
Unit A	
plowzone: (0-20cm)	3 quartz chunks, without cortex 2 quartzite chunks, without cortex 1 ironstone chunk
gray sand: (45-52cm)	2 quartzite chunks, with cortex
Unit B	
plowzone: (0-20cm)	1 quartz chunk, without cortex 1 quartzite chunk, without cortex
tan-orange sandy loam: (20-30cm)	2 jasper chunks, with cortex
Unit C	
plowzone: (0-20cm)	1 quartz chunk, with cortex 1 jasper chunk with cortex
Unit D	
plowzone: (0-20cm)	1 quartz chunk 3 quartzite chunks 1 jasper chunk 1 jasper fragment 1 quartzite flake
tan-orange sandy clay: (28-43cm)	1 quartzite chunk, with cortex 3 quartz chunks, with cortex
sandy gray clay with tan-orange mottling: (50-60cm)	1 quartzite chunk, with cortex
Post Holes	
Post Hole #4	
plowzone: (0-15cm)	1 quartzite chunk, without cortex 1 quartz chunk, without cortex
Post Hole #5	
plowzone: (0-20cm)	1 fine-grained chert chunk
Post Hole #7	

plowzone: (0-22cm)

1 jasper flake, possibly retouched

Post Hole #35

plowzone: (0-19cm)

1 quartz chunk, without cortex